

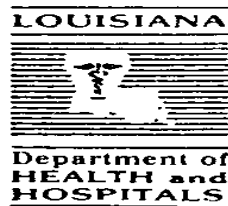


Eliminating Childhood Lead Poisoning:

A Strategic Plan for Louisiana

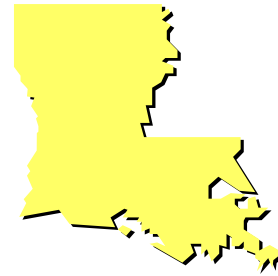
Prepared by

The Louisiana Childhood Lead Poisoning Prevention Program



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I. Executive Summary

The Mission

The mission of this strategic plan is to eliminate childhood lead poisoning by 2010 in Louisiana through surveillance, primary prevention and universal statewide screening. Evidence for focusing on the elimination of childhood lead poisoning is vast.

First, childhood lead poisoning is entirely preventable. Secondly, public health focus throughout the state has been mainly dedicated to the identification and follow-up of affected children through medical screening (secondary prevention). Elimination, however, means shifting the focus from secondary prevention to primary prevention, whereby a child has protection from lead hazard exposures.

The Louisiana Childhood Lead Poisoning Prevention Program (LACLP) recognizes the importance of this shift, and with direction and funding from the Center for Disease Control and Prevention (CDC), has partnered with various organizations and stakeholders to create a five-year strategic plan to eliminate childhood lead poisoning. Integral to the mission of this plan is enhanced partnerships and effective monitoring and tracking.

Call for Primary Prevention

Lead poisoning is defined at $\geq 10\mu\text{g/dL}$ by both federal and statewide standards. Over 2,000 children aged 6 months to 6 years old who were screened in Louisiana for lead in 2002 had an initial blood lead level (BLL) of $10\mu\text{g/dL}$ or greater.¹ The proportion of elevated blood lead levels among those screened

was 4.5%; this is about twice the national average (2.2%).²

No level of lead is safe in the body, and over the years the level for defining blood lead elevation has dropped from $60\mu\text{g/dL}$ in the mid 1960s down to the current level of $10\mu\text{g/dL}$ in 1991. Recent publications have brought attention to associated decreases in IQ levels with blood lead levels even lower than $10\mu\text{g/dL}$. Statewide, there were 6,801 children with BLLs between 5 -10 $\mu\text{g/dL}$ in 2007.

Lead poisoning may go undetected without screening. Further reasoning for primary prevention efforts is that effects of lead poisoning can be present without obvious symptoms. A child may be either asymptomatic or experience symptoms common to other ailments (e.g. flu and colds) and not recognizable as having to do with lead. Additionally, lead may leave the body before being detected by a lead screening test, depending on the level and duration of exposure to the lead poisoning source.

Sources of lead poisoning are known. The most common sources are dust and soil contaminated by lead-based paint from older housing stock. Hazard control measures and investigations are currently initiated at the state and local levels based on a confirmed case of childhood lead poisoning. The purpose of the investigation control measure is to identify the source of lead poisoning and prevent further exposure. However, damage to the child's health may have already occurred. This is even more reason to prevent a child's exposure to lead hazards in the first place.

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We recognize that it is time to go beyond using children as the detection method for lead hazards. Rather, using primary prevention strategies to prevent children from ever being exposed to lead hazards will be the emphasis. Ongoing evaluation of childhood lead poisoning screening data will identify high-risk populations and help appropriately direct prevention activities.

We believe these strategies will greatly reduce the level of poisoning for those children who are already exposed as well as prevent future children from exposure. Community based organizations, real estate agencies, local housing agencies, universities and maternal and child health medical providers, advocates and other state agencies have come together to provide insight and expertise for this statewide plan to eliminate childhood lead poisoning.

Defining Elimination

Elimination of childhood lead poisoning is defined as “the state in which no child 6months to 72 months old has a blood lead level greater than 10ug/dL by the year 2010, and where lead has been effectively removed or controlled in the children’s environment.”

LACLPPP and the LACLPPP Advisory Committee agree that the national goal of elimination by 2010 can be achieved. The current amount of data in the surveillance system (LALSS), however, is not sufficient to provide an accurate projected year of elimination given current trends of elevated blood lead levels. Levels have continued to decrease over the four years of existing data. Objectives and activities in this plan, therefore, are based on elimination

by 2010. The ultimate indicator that elimination has been achieved is by tracking and monitoring blood lead levels through the surveillance system.

The Plan

The main components of the Strategic Plan are the Needs Assessment and the Work Plan. The four main sections of the Work Plan are

- Surveillance,
- Educational & Environmental Primary Prevention and
- Reaching High Risk Populations.

A narrative begins each section describing the background and history as well as future directions. Goals, objectives and activities are presented in tables for each component to highlight the timeframes and evaluation methods.

The guiding principle of the plan is primary prevention. Continued screening, particularly areas where screening has been traditionally low, is not discounted, however, as still a part of elimination. Secondary prevention is still necessary to treat those already affected. Key informant interviews were conducted with various stakeholders and professionals in order to carefully craft a strategic plan that demonstrates how lead partners in Louisiana will be working to prevent childhood lead poisoning.

The plan will be enhanced and updated as directed by evaluation findings. The plan will serve as a basis and guide for yearly objectives developed by state agencies regarding lead. Yearly objectives will be evaluated for effectiveness. Changes will be made as needed.

II. Assessing the Need

The Lead Poisoning Landscape in Louisiana

Background

While childhood lead poisoning affects all socioeconomic levels of society, there are certain groups that are more commonly affected and have higher risk. Various risk factors are associated with lead poisoning including poverty, age of housing and race. This plan takes into account all risk factors. While housing is a major target for elimination activities, other issues continue to have to be addressed in order to support elimination efforts. Louisiana data evidences the many ways that children are at risk for lead poisoning.

i. Demographics

Nearly 4.5 Million people live in Louisiana, and about 19.6% of the population lives below poverty.³ This is higher than the percent of persons in the United States, in general, who live below poverty (12.4%).³ Even those households earning median income have an income of about \$10,000 less than the rest of the nation.³ Poverty is one of several risk factors of childhood lead poisoning. Housing stock of those living in poverty conditions is less likely to be maintained in good condition. In those circumstances, lead-based paint is more likely to be in poor condition (chipping, peeling or flaking). These conditions lend itself to a more hazardous environment, increasing a child's risk for lead poisoning.

ii. Medicaid Population

Children who are Medicaid eligible and those actually enrolled in Medicaid are also a population that is given priority for lead poisoning prevention activities.

A GAO study in 1998 showed that 80% of children with blood lead levels $>10\mu\text{g/dL}$ were enrolled in the Medicaid Program. Screening for blood lead levels is a required element of the EPSDT Program, where screening protocol is based on risk. Every 1 and 2 year old must be screened under this Program regardless of risk status.

Nearly 30% of children screened in Louisiana were Medicaid recipients in 2001. A Medicaid data link with LACLPPP Surveillance data revealed that of the 30% screened, 6.6% had an initial blood lead level $\geq 10\mu\text{g/dL}$ in 2001 (compared with 10.4% in 2000). This is still three times higher than the national average of elevated blood lead level, which is at an all-time low of 2.2%.⁴ See Table 1 (Section IV, Tables and Figures) for Lead Poisoning Landscape Statistics.

iii. Shifts in Healthcare

Since 1998, the percent of uninsured children in Louisiana has steadily dropped by 27% (from 32%)⁵. This is largely due to the implementation of LACHIP, Louisiana's Child Health Insurance Program. Through this Program, income eligibility for Medicaid has increased to 200% of federal poverty level.

Additionally, Community Care, the State's Primary Care Case Management model of managed care for the state's Medicaid Program, has been implemented statewide. Community Care began in the northern part of the state in the early 1990's. The program

was present in 20 parishes until August 2001 when the statewide implementation began on a region by region basis.

Through this program, all Medicaid enrolled children are assigned to a primary care health provider who is responsible for assuring preventive services as well as primary care. This should lead to an increase in children being screened.

iv. Housing Stock

A glance at the age of housing stock in Louisiana shows that about 45% of the structures are built before 1960 (822,274)³. Dwellings built before 1978, the year lead was banned from non-industrial paint, are likely to contain lead-based paint. However, more children are poisoned in housing built before 1978, specifically those built before 1960 and 1950. Lead was phased out of residential paint beginning in 1950, and totally banned in 1978. Those built prior to 1950 have higher concentrations of lead than those built between 1950 and 1978. About 20% of structures in Louisiana are built before 1950 (roughly 376, 654) according to the 1990 U.S. Census.

Weak data exists for houses that have poisoned multiple children. Additionally, data regarding homes that have been remediated or abated for identified lead hazards is also limited and is currently being strengthened.

v. State & Local Policies

In addition to the federal rules and regulations, such as the Title X, Section 1018 – the Lead Disclosure Rule and the HUD Pre-Renovation Education rule, there are several state and local policies that influence the lead poisoning prevention landscape.

LAC Title 33, Part III, Chapter 28 Lead Accreditation & Licensure

This piece of the Louisiana Administrative Code (LAC) sets forth the Louisianan Department of Environmental Quality's (DEQ) set of standards and training procedures to certify Lead Risk Assessors, Lead Inspectors, Lead Workers and Supervisors. To date, DEQ has accredited 143 Risk Assessors, 336 Lead Inspectors and 100 Lead Supervisors. Only 27 Accredited Risk Assessors and 48 Accredited Lead Inspectors are currently active, and are not evenly located throughout the state. When abatement work is planned or conducted, it is these professionals whose involvement is required. When a homeowner wants to determine if lead-based paint or lead hazards exist in their home, it is these professionals who can conduct the test. When an EBLL investigation is done to find out the source of lead poisoning for a child, the state sends out a Certified Risk Assessor.

R.S. 40:1299.21-28 Lead Poisoning Prevention & Control

This piece of legislation establishes the lead poisoning prevention program, mandates reporting by labs of all blood lead levels (physicians are required to report blood lead levels $\geq 15\mu\text{g/dL}$) and sets forth a protocol for detecting lead poisoning sources. When the state health officer (or his or her designee) is notified of an eligible child's elevated blood lead level, then an investigation can be conducted to inspect the child's "primary residence or any recently-resided residence."

Legal leverage to enforce that property owners remove or cover identified lead hazards "so as to make it inaccessible to

children six years of age or any mentally retarded persons” is set forth in this legislation. Forty-five (45) days to remove or control the hazards (15 to make a plan and 30 days to complete) is also set forth in this legislation.

LAC 48: V. 7005
Mandatory Blood Lead Screening of Children In High Risk Geographical Areas

The designation of high-risk areas for childhood lead poisoning from Morehouse, Orleans, Tensas, and West Carroll to ALL parishes in the state of Louisiana. Therefore medical providers of routine primary care services to children ages 6 months to 72 months who reside or spend more than 10 hours per week in any Louisiana parish must have such children screened in accordance with practices consistent with the current Center for Disease Control and Prevention guidelines and in compliance with Louisiana Medicaid (KIDMED).

LAC 48: V. 7007
Mandatory Case Reporting by Health Care Providers

To ensure appropriate and timely follow up, medical providers must now report a lead case, which is a blood lead level ≥ 15 micrograms per deciliter ($\mu\text{g}/\text{dL}$), to the Lead Poisoning Prevention Program Office of Public Health within 24 business hours by fax to (504) 219-4452, and the original lead case reporting form shall be mailed within 5 business days to the Louisiana Childhood Lead Poisoning Prevention Program, Office of Public Health, Room 141, 3101 West Napoleon Avenue, Metairie, LA 70001

LAC 48: V. 7009
Reporting Requirements of Blood Lead Levels by Laboratories and Health Care Providers Performing Office-Based Blood Lead Analysis for Public Health Surveillance

All results of blood lead testing for children less than 72 months of age must be reported to the Louisiana Lead Poisoning Prevention Program by electronic transmission regardless of the blood lead level.

LAC Title 51, Part IV, Chapter 1
Lead Contamination

Part of the Sanitary Code, this piece of the Administrative Code includes definitions of words associated with lead poisoning control, including “lead contamination.” Day care facilities are also addressed here, saying that they “shall be maintained free of lead contamination.”

Inspection of premises, required control measures and verified abatement protocols are also included here. The state health officer is given authority to not only inspect the child’s primary residence, but “other residences or premises which the person with lead poisoning frequents.” LACLPPP defines a “frequent amount of time” as 10 or more hours per week.

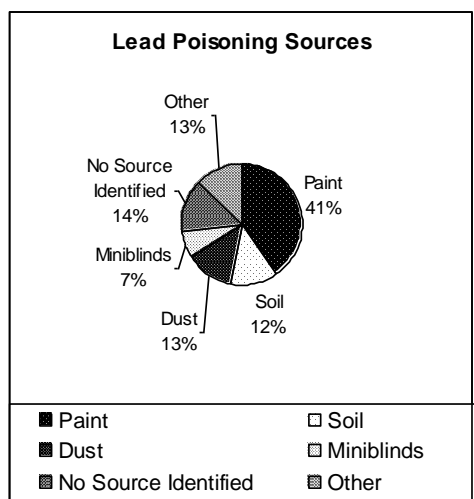
Ordinance 20345
Local Dry Sanding Ordinance
In September 2001, the New Orleans Council members passed an ordinance that restricts dry sanding on the outside of homes built before December 31, 1978. The ordinance also sets forth notification requirements when interior or exterior renovations include disturbance of lead-based paint.

vi. Lead Poisoning Sources

Sources of lead poisoning are consistent with traditional sources: paint and dust. Non-traditional sources have not typically been an issue in the CLPPP program's history. However, some non-traditional sources, such as fishing weights, old vinyl mini-blinds, car batteries and occupational & industrial exposure are common non-traditional sources of lead hazards.

Figure 1 shows that 41% of the identified lead poisoning from EBL investigations sources has been paint.

Figure 1. Lead Sources



vii. Costs, Barriers & Resources

Using the Korfmacher⁴ calculator for estimating costs of lead poisoning based on incidence of children with BLL >10µg/dL in 2001, it is figured that the state could save the following amounts in each of these areas if lead poisoning is eliminated:

1. Special Education: \$ 629,173
2. Medical Costs: \$ 538, 509
3. Juvenile Justice: \$125, 000, 000

Special Education estimates are based on Schwartz's (1994) estimates that "20% of children with blood lead levels over 25µg/dL need special education for an average of 3 years." The special education includes assistance for slowed learning, e.g. low vocabulary and grammatical-reasoning scores and poor hand-eye coordination.

Several barriers to eliminating lead poisoning were identified through responses to the key informant interviews. Some barriers identified include maintaining lead based paint in good condition, protective policies for lead safe work practices, low screening rates lead found in toys and dinnerware that children eat on or play with, and availability of funding.

Resources

Many monetary resources are known about, yet may not be a direct part of Louisiana's lead poisoning prevention activities. Some are beginning to be a part of lead prevention activities. Ways of pooling together resources are being more creatively identified as the purposes of programs, intents of agencies and directions of funds are understood.

Some Community Development Block Grant (CDBG) funding in the state is used for general home and community improvements, sometimes activities include issues regarding lead. CDBG funds come from the Department of Housing & Urban Development (HUD), and is distributed in two ways: either directly to entitlement cities or indirectly (through the state) to non-entitlement areas. LACLPPP has provided some letters of support and lead hazard data to entitlement and non-entitlement areas.

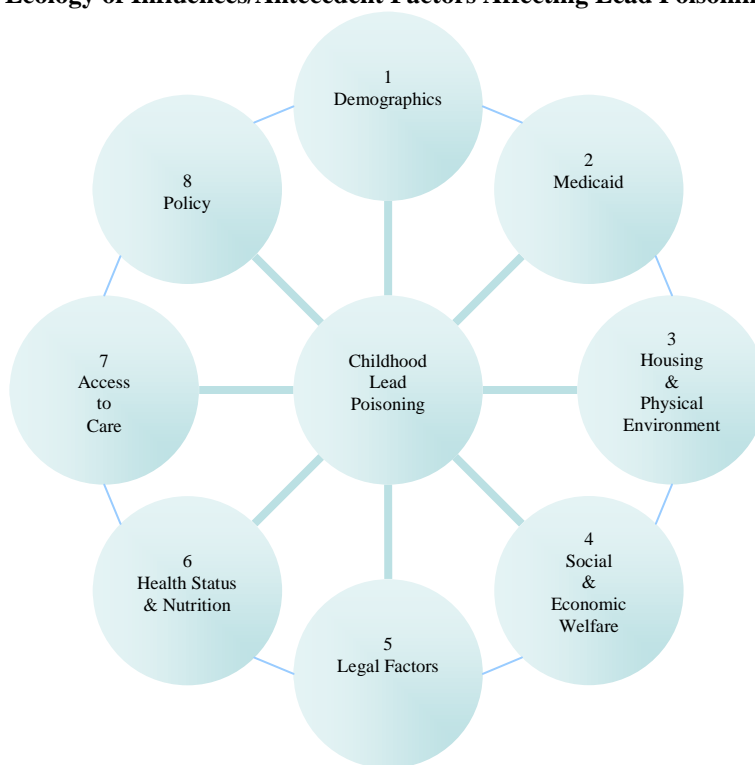
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HUD also houses the Office of Healthy Homes & Lead Hazard Control which administers several lead-related grants. There are currently four agencies receiving OHHLC funding for different activities. The four recipients are the New Orleans Department of Housing and Neighborhood Development, Association of Community Organizations for Reform Now (ACORN), Tulane School of Public Health & Tropical Medicine as well as Xavier University.

The United States Department of Agriculture has resources for rural areas to do community development work such as home rehabilitation. Funding per home is limited. Some rural areas, such as Madison Parish in northeast Louisiana already receive such funding.

The Maternal and Child Health Block Grant helps fund local and state lead-related activities.

Ecology of Influences/Antecedent Factors Affecting Lead Poisoning



1: Race, national origin/ethnicity, age, 2: Medicaid enrolled/ever on Medicaid, 3: Age of housing, exposure to lead sources (traditional & non-traditional), time spent in pre-1978 housing, 4: Income level/resources, parent/guardian education level, caregiver characteristics, housing situation, hobbies/occupational exposure 5: Homeowner and tenant/landlord rights, 6: Child's health, 7: Health seeking behavior, 8: State's screening requirements, sanitarian codes, medical & environmental case management policies

III. Work Plan

i. SURVEILLANCE

The Childhood Blood Lead Surveillance System (CBLSS) provides the data necessary to effectively operate components of LACLPPP. When LACLPPP first received CDC funds in 1998, the program worked with Tulane University School of Public Health & Tropical Medicine to develop and maintain the surveillance system. The CBLSS was successfully transferred from Tulane to DHH/OPH. Two surveillance personnel employed by the State of Louisiana since July 1st, 2003 have operated the CBLSS.

The surveillance system has been expanded into a comprehensive, population-based system by collecting all blood lead test conducted on children between the ages of 6 and 72 months. Reporting to the CBLSS has been imported to the system electronically or manually. A total of six private and one state laboratory are now electronically sending periodic screening reports on all blood lead levels to the CBLSS. The environmental investigation results are also imported manually to the system. After cleaning collected data through maintenance procedures, the elevated cases are sent to the tracking system. Surveillance data is currently being used to monitor and direct program activities as it captures patient data and links follow-up blood lead tests and environmental investigations, individual laboratory and provider data and Medicaid status data. Patient data enables the case manager to monitor and direct case management while the

associated provider data enables the program to target specific providers for guidance on screening and case management protocols. The surveillance data also enables the program to expand its understanding of high risk population and high risk areas by describing the screening and prevalence rates for each in the relationship with Medicaid and housing data and being disseminated in the form of quarterly and annual surveillance reports, quarterly and annual screening and case management reports cards and through mid-point and annual process and outcome evaluation reports. GIS software has been used to target program resources and efforts.

Improving the quality of data is the most important thing that needs to be taken into consideration: almost 60% of our records are missing race and about 27% are missing specimen type. A lot of efforts have been made to improve reporting quality by contacting providers who submit incomplete data, working with certain laboratories to get the right blood analysis forms, to educate providers to promote the lead program reporting rule. As the quality of reporting improves, population based data from surveillance system will be used to further refine the screening recommendation for the state.

Goal: To use surveillance to guide statewide monitoring, planning and evaluation of lead poisoning prevention activities

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Surveillance is the driving force behind lead prevention activities because it helps to track and monitor progress. The three main surveillance objectives reflect the need for continued identification and monitoring of blood lead levels in high

risk areas, to identify non-traditional lead sources in high risk areas and to use LALSS data to conduct special analysis. The following work table shows the objectives, activities as well as timelines and evaluation measures.

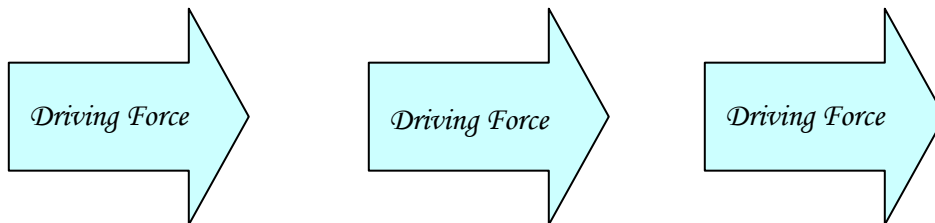
Surveillance Work Plan:

Surveillance Objective 1: <ul style="list-style-type: none">• At least 60% of data will contain accurate information	
Surveillance Activity 1: <ul style="list-style-type: none">• Perform data matches with Medicaid, LINKS, Vital Records and WIC• Collect missing data from labs and providers	
Time Frame for Completion: <ul style="list-style-type: none">• Annually• Quarterly	Responsible Staff: <ul style="list-style-type: none">• Surveillance Staff• Kathleen Benfield
Evaluation Measures: <ul style="list-style-type: none">• Number of children with complete data• Number of children screened	

Surveillance Objective 2: <ul style="list-style-type: none">• 80% of providers will receive reports regarding lead screening performance	
Surveillance Activity 2: <ul style="list-style-type: none">• Produce and send reports on lead screening rates by providers	
Time Frame for Completion: <ul style="list-style-type: none">• Semi-annually	Responsible Staff: <ul style="list-style-type: none">• Surveillance Staff
Evaluation Measures: <ul style="list-style-type: none">• Number of reports sent to providers• Number of providers submitting specimen	

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Surveillance Objective 3: <ul style="list-style-type: none">• Strengthen and maintain data sharing with NOCLPPP	
Surveillance Activity 3: <ul style="list-style-type: none">• Conduct data sharing activities with NOCLPPP	
Time Frame for Completion: <ul style="list-style-type: none">• Monthly	Responsible Staff: <ul style="list-style-type: none">• Surveillance Staff
Evaluation Measures: <ul style="list-style-type: none">• Number of new records imported and exported between LACLPPP and NOCLPPP	



ii. PRIMARY PREVENTION – EDUCATION/OUTREACH

Conducting outreach and education among Louisiana citizens about childhood lead poisoning has always been a priority. Printed inserts have been designed and mailed to help spread the word about lead poisoning in Orleans and Caddo Parishes. Workshops have been conducted to educate professionals about lead poisoning. Workshop components included presentations on legislation, screening, environmental, general lead information and more recently primary prevention strategies. LACLPPP has been successful in obtaining the declaration of lead poisoning prevention week by the Governor's Office. It is during this week that we hold prevention activities and lead poisoning is at peak awareness levels. LACLPPP also launched its statewide toll-free number which allows medical providers to request documents and the reporting Rule, parents to request health education materials, and to speak with appropriate staff members.

There has been a paradigm shift in the trek to eliminate childhood lead poisoning in Louisiana from secondary, reactive approaches to primary, proactive approaches. In keeping with this paradigm shift LACLPPP's health education efforts focus on increasing awareness and knowledge about lead poisoning that will lead to a change in attitudes and beliefs about the dangers of lead poisoning leading to increased lead-safe behaviors before a child is poisoned. This is a major accomplishment in working toward achieving Healthy People 2010 goals.

As of June 2004, LACLPPP conducted seven workshops to educate professionals about lead poisoning and strategies that can be used in practice. Inserts were mailed with New Orleans' water bills encouraging screening in Orleans Parish. Lead Busters, a research project conducted by Tulane University School of Public Health and Tropical Medicine, Center for Applied Environmental Health was implemented in Orleans Parish after evaluation findings showed success in the community.

The health education component now focuses on primary prevention such that education efforts are geared toward preventing the onset of lead poisoning in addition to education about screening. Screening is still very important and while one of LACLPPP's goals is to increase screening rates, health education is one mechanism to help decrease the number of elevated blood levels among children screened until there are none.

LACLPPP's primary prevention health education component now has a rigorous evaluation plan that reflects behavioral science and health education theory yet it is very practical. The evaluation plan will continue to evolve as findings are obtained. Evaluation is essential to any community health education plan and it is now a major focus area for primary prevention health education. The above mentioned strategies and activities are being strengthened with formal evaluation methods and over time will reflect the results of the data collected.

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Goal: To use primary prevention strategies to educate the public and to increase safe behaviors, improve screening rates, and decrease the incidence of childhood lead poisoning

Other health education and behavior theories guided the development of the health education activities.

The PRECEDE/PROCEED model, an Educational and Ecological Approach to Health Education, served as a framework for developing objectives for health education.

Primary Prevention Education/Outreach

Health Education Objective 1: <ul style="list-style-type: none">• Increase knowledge of sources, symptoms, effects, etc., of childhood lead poisoning by 100% among all Parish Health Units, KIDMED providers, and Head Start	
Health Education Activity 1: <ul style="list-style-type: none">• Workshops• Presentations• Distribution of pamphlets• Health Fairs	
Time Frame for Completion: <ul style="list-style-type: none">• June 30, 2010	Responsible Staff: <ul style="list-style-type: none">• Health Education Coordinator
Evaluation Measures: <ul style="list-style-type: none">• Attendance Logs• Number of people reached by activity	

Health Education Objective 2: <ul style="list-style-type: none">• Increase the knowledge of lead safe behaviors among families, children and the general public	
Health Education Activity 2: <ul style="list-style-type: none">• Toll Free number• Website• Distribution of brochures	

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<ul style="list-style-type: none">• Media Campaign• Community Collaborations	
Time Frame for Completion: <ul style="list-style-type: none">• June 30, 2010	Responsible Staff: <ul style="list-style-type: none">• Health Education Coordinator
Evaluation Measures: <ul style="list-style-type: none">• Number of calls to toll free number• Number of hits/visits to website• Number of pamphlets distributed	

iii. PRIMARY PREVENTION – ENVIRONMENTAL/HOUSING

To eliminate childhood lead poisoning as defined in this report, lead safe homes and play areas must be made available for children ages 6 months to 6 years old. The overall environmental goal then is to increase lead safe housing for children. Property owners, property managers, realtors and tradespersons involved in construction and painting must be educated, involved and motivated to safely remove lead based paint. The first two years of the strategic plan should focus on removing hazards already identified from environmental inspections, continue conducting EBL investigations and train the target population on lead safe work practices, while the last three years should work to survey high risk areas for lead before a child is exposed.

Until recently the state lead program worked with Sanitarian Services for provision of environmental lead investigations. Elevated blood lead level investigations are now performed by risk assessors at the state level, which allows a more comprehensive approach to identifying and removing hazards. Local sanitarian offices housed records of dwellings identified with lead hazards and only over the last four years did records of identified dwellings begin to be streamlined into one central database. Historically, the main activities after a dwelling was identified with lead hazards were to

- post the home with a notice of hazards,
- notify the property owner of the hazards and
- Remove the children from posted homes.

In order to create home environments that are lead safe, political will and enforcement mechanisms must be strengthened.

Activities will be implemented according to the priority areas identified. Realtors, property owners in high risk areas, contractors, do-it-yourselfers, and community based organizations working on environmental issues must be identified in each area and invited to participate in lead safe work practice trainings and/or participate in a local lead task force.

Goal: To have lead safe housing available to children ages 6 months to 6 years old in Louisiana.

The objectives that deal with this goal, and ultimately elimination, deal with increasing lead safe work practices among professional and non-professionals, increasing enforcement and policy development.

Working to Create Lead Safe Housing



by 2010

Environmental Housing Work Plan

Environmental Housing Objective 1: <ul style="list-style-type: none"> • 100% of eligible children who meet the criteria for environmental inspection will be referred for one 	
Environmental Housing Activity 1: <ul style="list-style-type: none"> • Complete EH 52 on all children who have a venous blood level > 20 or two venous levels > 15 	
Time Frame for Completion: <ul style="list-style-type: none"> • On-going 	Responsible Staff: <ul style="list-style-type: none"> • Patient Care Coordinator • Environmental Coordinator
Evaluation Measures: <ul style="list-style-type: none"> • Number of children referred • Number of children who meet criteria 	

Environmental Housing Objective 2: <ul style="list-style-type: none"> • Implement initiatives to increase lead safe work practices and lead safe housing choices 	
Environmental Housing Activity 2: <ul style="list-style-type: none"> • Assess knowledge, attitudes, and behavior of tenants and homeowners regarding lead based paint and lead safe cleaning • Conduct health education outreach based on identified gaps of knowledge • Repeat survey • Conduct surveys among homeowners to identify barriers for incorporating lead safe work practices in renovations • Increase data sharing among agencies and businesses who conduct lead renovation Projects • Educate public on availability of certified risk assessors in local areas through DEQ link 	
Time Frame for Completion: <ul style="list-style-type: none"> • June 30, 2010 • On-going 	Responsible Staff: <ul style="list-style-type: none"> • Environmental Coordinator • Health Educator • Surveillance Staff

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Evaluation Measures:

- Changes in knowledge, attitudes and behaviors
- Number of renovation projects done in a lead safe manner
- Number of lead safe housing increased

Environmental Housing Objective 3:

- Increase opportunities for lead safe remediation and abatement
 - At least 10% of contractors have certification in abatement, lead work, risk assessment or lead inspection by June 30, 2010
 - At least 80% of the contractors, property owners, painters and do-it-yourselfers from High risk areas have attended the lead safe work practices training by June 30, 2010

Environmental Housing Activity 3:

- Make referrals to ACORN in areas where services are available
- Enumerate number of contractors in high risk areas
- Determine % of those currently having certification, abatement, remediation
- Work with DEQ to send out letter to contractors with certification information

Time Frame for Completion:

- June 30, 2010

Responsible Staff:

- LACLPPP Staff

Evaluation Measures:

- Number of contractors certified
- Changes in knowledge, attitude and behavior

Environmental Housing Objective 4:

- Establish ways in which homes are identified with lead hazards before a child is affected

Environmental Housing Activity 4:

- Assure that lead inspections are included in general home inspections
- Explore opportunities for policy change in checking homes next door to those identified with lead hazards through EBL investigations
- Establish policy for lead safe registry requirements for pre-1960 homes

Time Frame for Completion:

Responsible Staff:

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<ul style="list-style-type: none"> • On-going 	<ul style="list-style-type: none"> • Environmental Coordinator • Program Coordinator
<p>Evaluation Measures:</p> <ul style="list-style-type: none"> • Number of inspections done yearly • Number that includes lead inspection • Policy developed • Registry developed 	

<p>Environmental Housing Objective 5:</p> <ul style="list-style-type: none"> • Increase initiatives and activities to increase enforcement <ul style="list-style-type: none"> ▪ Assure that at least 75% of new homes identified with lead hazards meet with compliance with R.S. 40:1299.27 ▪ Enforce renovation and lead hazard removal of 50% of existing properties identified but not in compliance with lead safe housing criteria ▪ Increase recognition of dust sampling technicians in state policy ▪ Assure inclusion of lead inspection or dust sampling in code enforcement inspections 	
<p>Environmental Housing Activity 5:</p> <ul style="list-style-type: none"> • Collaborate with DHH/OPH legal staff to secure protocol for non-compliance situations • Identify and secure incentives for compliance (e.g. availability of HEPA vacuum and compliance certificate) • Enumerate existing dwellings identified with lead • Send out letters and conduct follow-up calls • Identify barriers of state recognition • Summarize national trends • Determine current code enforcement protocol 	
<p>Time Frame for Completion:</p> <ul style="list-style-type: none"> • June 30, 2010 • On-going 	<p>Responsible Staff:</p> <ul style="list-style-type: none"> • Environmental Coordinator
<p>Evaluation Measures:</p> <ul style="list-style-type: none"> • Protocols secured • Protocols used 	

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- Number of incentives identified
- Number of identified dwellings
- Number of letters sent
- Number of phone calls in response
- Number, type and content of discussions
- Adoption and implementation of policy

Environmental Housing Objective 6:

- Conduct special analysis of childhood blood lead level data for program planning and evaluation

Environmental Housing Activity 6:

- Develop the cross sectional analysis design to determine the odds ratio of having lead elevation among parishes
- Analyze the available data and interpret the finding
- Integrate surveillance data with census data using updated geo-coding and mapping software

Time Frame for Completion:

- Annual
- On-going

Responsible Staff:

- Surveillance Staff

Evaluation Measures:

- Odds ratio of having lead elevation among parishes
- Number and % of housing built before 1950
- Number and % of housing built before 1978

iv. REACHING HIGH RISK POPULATIONS

History

Screening for childhood lead poisoning began in Louisiana in the early 1970's in the New Orleans area and the rest of the State in the early 1980's has resulted in identification of areas and populations at risk. Information from the early years of the Louisiana Childhood Lead Poisoning Prevention Program was based on children screened through public health clinics. The CDC Cooperative Agreement beginning in 1998 has allowed the establishment of a population based surveillance system based on laboratory reporting. With this, a statewide system exists which provides screening and prevalence data that can be used to better define those areas and populations at risk for childhood lead poisoning.

Current Status

In 2008, 73,124 children between the ages of 6 months and 6 years were reported to have been screened for lead poisoning. This represents approximately 21.6% of 6 month to 6 year old children in the State. The percent of children screened varies from parish to parish with a high of 47.3% to lows of 6.3% (See Table 2, Section IV, Tables and Figures).

Both the old and the current surveillance data show that New Orleans has the highest prevalence and largest number of children affected by lead poisoning. Efforts on reaching high risk populations in this state have been focused on the children in Orleans Parish. Other areas in the State have been identified as

having high numbers of affected children. These areas include the northeastern and northwestern parts of the State and the East Baton Rouge area.

A population that was thought to be high risk were those children enrolled in the Medicaid Program. Since January of 2000, children in families with incomes up to 200% of Federal Poverty Level (FPL) have been eligible for Medicaid in Louisiana. Linkage of surveillance data with Medicaid files for 2007 indicates that Medicaid enrolled children in the Surveillance system are not more likely to have an elevated lead than those not enrolled in Medicaid. This may be due to the increase in income eligibility for Medicaid of 200% FPL resulting in the inclusion of children in families with better socioeconomic status and improved environmental conditions than in previous times in which Medicaid eligibility was at 133% FPL.

Successes

The New Orleans Childhood Lead Poisoning Prevention Program has continued to provide screening and case management including environmental investigation for those children identified with elevated lead levels. Additionally, the NO CLPPP provides community education through its Program staff. Additional education and outreach efforts in New Orleans have been through the development of the Lead Busters Program through the Tulane Center for Applied Environmental Health.

LACLPPP has incorporated children screened by private providers into the Patient Tracking system. Support to private as well as public health providers is provided through the LACLPPP Case Management Coordinator. The centralization of environmental assessments and follow-up has been established and has been successful in

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improving environmental management of children with elevated lead levels.

Challenges

The low screening rate in many parishes throughout the State has made it difficult to fully define all populations at risk. However, the children who are screened most likely do come from populations identified as at risk because of income level and Medicaid enrollment

Increasing awareness of the effects of lead poisoning and the need for screening among providers and those involved in programs providing services to young children is essential to reach those children with an increased risk. We will be working with state as well as local groups to accomplish this.

Work Plan for Reaching High Risk Populations:

Goal: Screen and identify at risk children for lead poisoning in Louisiana.

Screening Work Plan

Screening Plan Objective 1: <ul style="list-style-type: none">• Disseminate revised screening plan	
Screening Plan Activity 1: <ul style="list-style-type: none">• Review and revise screening plan• Disseminate revised plan	
Time Frame for Completion: <ul style="list-style-type: none">• June 30, 2010	Responsible Staff: <ul style="list-style-type: none">• LACLPPP Staff• LACLPPP Advisory Committee
Evaluation Measures: <ul style="list-style-type: none">• Increase in screening rates from fiscal year 07/08 to 08/09 to 09/10	

Screening Plan Objective 2: <ul style="list-style-type: none">• 55% of Medicaid eligible children less than 72 months of age will have a lead screening	
Screening Plan Activity 2: <ul style="list-style-type: none">• Strengthen relationship with Medicaid• Match data with Medicaid to obtain screening numbers	
Time Frame for Completion: <ul style="list-style-type: none">• June 30, 2010	Responsible Staff: <ul style="list-style-type: none">• LACLPPP Medical Director• Health Educator

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	• Surveillance Staff
Evaluation Measures: <ul style="list-style-type: none"> • Number of Medicaid children screened • Number of Medicaid eligible children 	
Screening Plan Objective 3: <ul style="list-style-type: none"> • 25% of all children in Louisiana less than 72 months of age will have a lead screening 	
Screening Plan Activity 3: <ul style="list-style-type: none"> • Educate providers and programs such as Head Start/Early Head Start, and WIC on statewide universal screening through LACLPPP's website, presentations, e-mail blasts and mailings • Provide information to families on the importance of testing through brochures, LACLPPP website, and Health Fairs 	
Time Frame for Completion: <ul style="list-style-type: none"> • June 30, 2010 	Responsible Staff: <ul style="list-style-type: none"> • Health Educator
Evaluation Measures: <ul style="list-style-type: none"> • Number of letters sent to providers • Number of e-mail blast sent to pediatricians • Record of presentations, Health Fairs and brochures distributed • Percent and number of children screened 	

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Goal: Provide timely and appropriate case management and health education to all children with levels $\geq 10\mu\text{g/dl}$ according to CDC guidelines.

Case Management Work Plan

Case Management Objective 1: <ul style="list-style-type: none">• 75% of children with elevated blood lead levels will receive timely and appropriate care	
Case Management Activity 1: <ul style="list-style-type: none">• Quarterly review of the timeliness of follow-up test and environmental requests• Disseminate lead screening, reporting and environmental information to families and providers	
Time Frame for Completion: <ul style="list-style-type: none">• Quarterly• On-going	Responsible Staff: <ul style="list-style-type: none">• Patient Care Coordinator
Evaluation Measures: <ul style="list-style-type: none">• Number of children who receive appropriate care• Number of children reported with elevated blood lead levels ($\geq 10\mu\text{g/dl}$)	

Case Management Objective 2: <ul style="list-style-type: none">• 25% of children with elevated blood lead levels will return to $< 10\mu\text{g/dl}$	
Case Management Activity 2: <ul style="list-style-type: none">• Evaluate completeness of data in LALTS	
Time Frame for Completion: <ul style="list-style-type: none">• On-going	Responsible Staff: <ul style="list-style-type: none">• Patient Care Coordinator
Evaluation Measures: <ul style="list-style-type: none">• Number of children $\leq 10\mu\text{g/dl}$• Number of children $\geq 10\mu\text{g/d}$	

IV. Tables & Figures

i. Tables

Table 1. Lead Poisoning Landscape Statistics

Louisiana Characteristic	Louisiana Statistic		U.S. Statistic
	Number	Percentage	
Total Population	4,500,000		287,900,000
Population Living below Poverty level	882,000	19.6%	11.3%
Median Income Level	\$32,124		\$41,990
Children enrolled in Medicaid (1 – 6 yrs old)	190,885		
Medicaid children screened for lead (2008)	46,862		

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Table 2. Parish Profiles

Parish	Population of Children[1] 6 and under	2008 Data						
		Total Tested (n)	Total tested (%)	10-14.9	15-19.9	≥ 20	≥10	Total elevated (%)
		µg/dl						
Acadia	5510	380	6.9%	3	1	0	4	1.1%
Allen	2083	539	25.9%	4	0	1	5	0.9%
Ascension	8129	1044	12.8%	5	1	2	8	0.8%
Assumption	1975	306	15.5%	0	0	0	0	0.0%
Avoyelles	3441	629	18.3%	6	0	1	7	1.1%
Beauregard	2701	399	14.8%	6	1	1	8	2.0%
Bienville	1216	277	22.8%	3	0	2	5	1.8%
Bossier	8689	1343	15.5%	12	4	2	18	1.3%
Caddo	19932	3265	16.4%	37	7	11	55	1.7%
Calcasieu	14634	3930	26.9%	13	8	5	26	0.7%
Caldwell	751	343	45.7%	3	4	2	9	2.6%
Cameron	583	242	41.5%	2	2	2	6	2.5%
Catahoula	822	273	33.2%	3	0	1	4	1.5%
Claiborne	1227	294	24.0%	12	5	7	19	6.5%
Concordia	1786	214	12.0%	5	1	2	8	3.7%
De Soto	2132	239	11.2%	3	0	4	7	2.9%
East Baton Rouge	32097	6561	20.4%	63	26	32	121	1.8%
East Carroll	884	67	7.6%	1	1	1	3	4.5%
East Feliciana	1713	249	14.5%	5	4	10	19	7.6%
Evangeline	3456	474	13.7%	5	3	0	8	1.7%
Franklin	1874	661	35.3%	3	0	0	3	0.5%
Grant	1656	155	9.4%	1	1	0	2	1.3%
Iberia	6620	716	10.8%	0	1	0	1	0.1%
Iberville	2636	261	9.9%	4	1	3	8	3.1%
Jackson	1167	281	24.1%	2	0	0	2	0.7%
Jefferson Davis	2909	649	22.3%	3	0	1	4	0.6%
Jefferson	29918	6627	22.2%	54	18	32	104	1.6%
La Salle	1017	178	17.5%	1	2	0	3	1.7%
Lafayette	16382	2041	12.5%	4	0	5	9	0.4%
Lafourche	7732	1108	14.3%	5	3	0	8	0.7%
Lincoln	3062	408	13.3%	0	2	0	2	0.5%
Livingston	8751	1332	15.2%	3	1	0	4	0.3%
Madison	1285	308	24.0%	2	2	0	4	1.3%

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Parish	Population of Children[1] 6 and under	2008 Data						
		Total Tested (n)	Total tested (%)	10-14.9	15-19.9	≥ 20	≥10	Total elevated (%)
				μg/dl				
Morehouse	2524	471	18.7%	10	0	1	11	2.3%
Natchitoch	3344	502	15.0%	2	0	0	2	0.4%
Orleans	16149	6214	38.5%	228	75	93	396	6.4%
Ouachita	12469	2006	16.1%	57	19	24	100	5.0%
Plaquemines	1309	321	24.5%	1	0	0	1	0.3%
Pointe Coup	1839	314	17.1%	1	0	0	1	0.3%
Rapides	10232	1530	15.0%	26	8	4	38	2.5%
Red River	888	137	15.4%	1	0	0	1	0.7%
Richland	1847	485	26.3%	9	2	0	11	2.3%
Sabine	1881	486	25.8%	7	3	0	10	2.1%
St. Bernard	658	311	47.3%	2	0	0	2	0.6%
St. Charles	4271	743	17.4%	5	2	1	8	1.1%
St. Helena	854	185	21.7%	0	0	0	0	0.0%
St. James	1802	248	13.8%	2	1	1	4	1.6%
St. John th	4165	873	21.0%	8	2	3	13	1.5%
St. Landry	7637	982	12.9%	5	1	0	6	0.6%
St. Martin	4492	285	6.3%	2	0	0	2	0.7%
St. Mary	4897	830	16.9%	2	3	1	6	0.7%
St. Tammar	16305	2583	15.8%	8	12	4	24	0.9%
Tangipahoa	9289	1846	19.9%	9	0	5	14	0.8%
Tensas	527	121	23.0%	1	0	0	1	0.8%
Terrebonne	9436	723	7.7%	3	1	0	4	0.6%
Union	1917	390	20.3%	1	1	3	5	1.3%
Vermilion	4849	782	16.1%	3	0	1	4	0.5%
Vernon	5862	271	4.6%	2	1	0	3	1.1%
Washington	2616	951	36.4%	13	5	2	20	2.1%
Webster	3135	826	26.3%	6	1	1	8	1.0%
West Bator	1845	185	10.0%	1	0	0	1	0.5%
West Carra	897	231	25.8%	3	0	1	4	1.7%
West Felici	826	52	6.3%	1	0	0	1	1.9%
Winn	1322	392	29.7%	2	2	0	4	1.0%
Missing		10599		136	41	37	214	2.0%

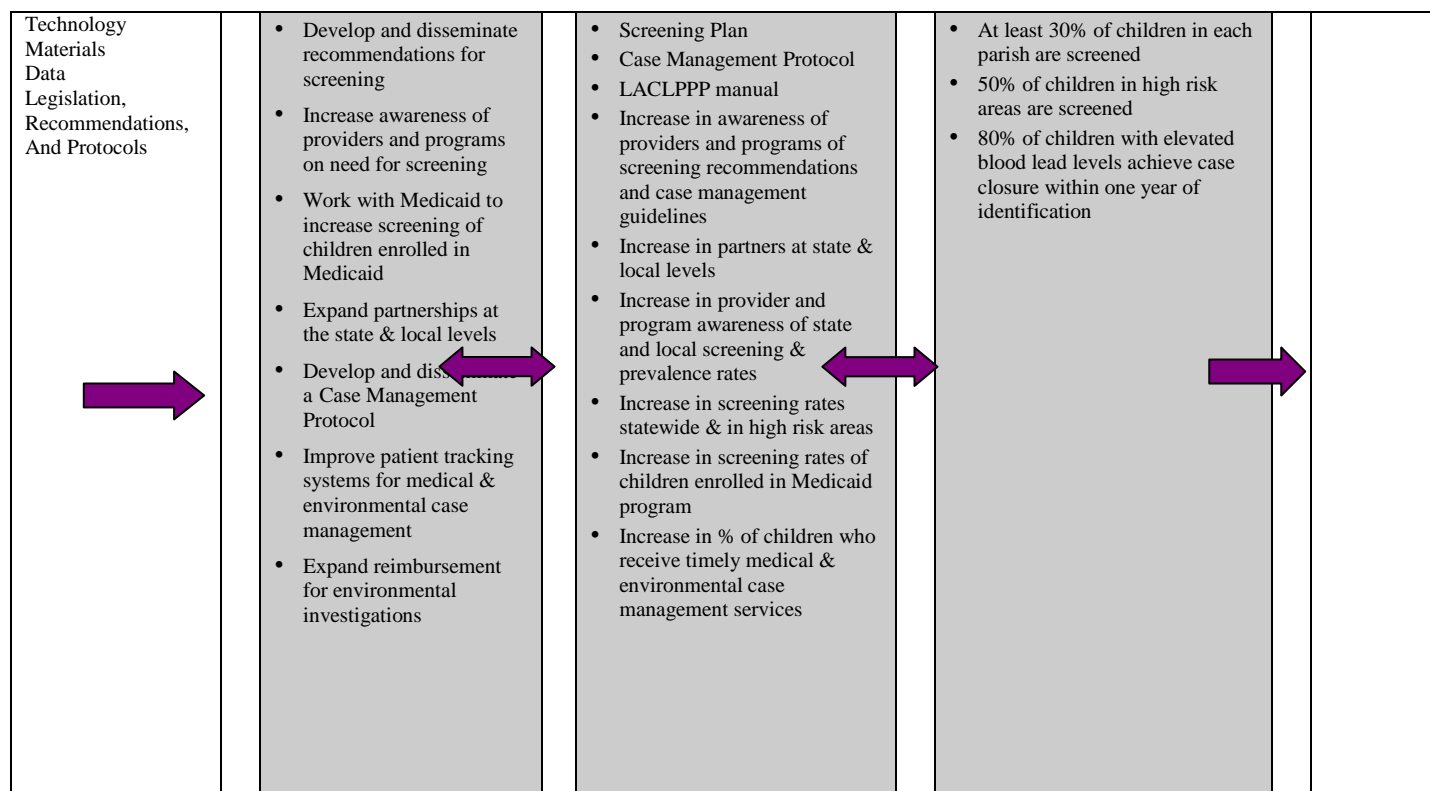
ii. Program Logic Model

The following two pages show the program logic model, which shows the inputs and activities that drive the program's intentions of certain outcomes and impacts. Inputs represent the resources that go into the program, monetary and non-monetary, direct and in-direct, tangible and intangible. Activities are based on each component's work plan, and are distinguished by shades of gray. Products are a result of program inputs and activities, as are short and intermediate outcomes. Short term outcomes are immediate results of program activities, within 1 year, specifically, and focus on knowledge, attitudes and skills gained by target audiences. Intermediate outcomes, for the purposes of this paper, are outcomes achieved in 1 – 4 years, and include behavior, normative and policy changes.

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INPUTS	ACTIVITIES	OUTCOMES		
		Products/Short Term	Intermediate	Distal
<p><u>Staff or contractors:</u> LACLPPP NOCLPPP Tulane</p> <p><u>Partners:</u> CDC HUD EPA Medicaid Real Estate Commission DEQ <i>OPH staff:</i> Sanitarians PHUs SEET Roundtable</p> <p>Funding Equipment Technology Materials Data Legislation, Recommendations, And Protocols</p>	<ul style="list-style-type: none"> Manage and import blood lead data to LALSS each week Develop plan to improve missing data Maintain and strengthen linkages with Medicaid, LINKS, WIC Analyze data to produce quarterly reports for providers and annual reports Define high risk areas and populations 	<ul style="list-style-type: none"> Increase in completeness of data in LALSS Improved quality of data linkages Better knowledge of screening rates and blood lead levels among high risk Increase blood lead screening reports from providers 	<ul style="list-style-type: none"> Yearly increases until there is at least a 50% screening rate in high risk areas and a 30% rate statewide within 5 years 3% annual decrease in elevated blood lead levels in high risk areas and 1% annual decrease statewide 	<p>Eliminate blood lead levels ≥ 10 among children ages 1 to 6 years old in Louisiana</p> <p>Eliminate Lead Hazards</p> <p>Eliminate Lead Poisoning</p>
	<ul style="list-style-type: none"> Conduct focus groups, In-Depth Interviews, & Community Forums Form community diagnoses Create print materials Maintain LACLPPP website & 800 # Conduct poster contests, workshops, mailouts, & activities for LACLPP Week Develop appropriate legislation 	<ul style="list-style-type: none"> Increased knowledge of target community needs Increase in knowledge and awareness of lead among target population/community Community-specific print materials Policies More community partners Coalitions 	<ul style="list-style-type: none"> Increase in intention to change behavior towards more lead safe practices Increased community participation Mobilization of communities regarding lead 	
<p><u>Staff or contractors:</u> LACLPPP NOCLPPP Tulane</p> <p><u>Partners:</u> CDC HUD EPA Medicaid Real Estate Commission DEQ <i>OPH staff:</i> Sanitarians PHUs SEET Roundtable</p> <p>Funding Equipment</p>	<ul style="list-style-type: none"> Educate contractors, etc. on lead safe work practices (LSWP) & Pre Renovation Education Rule Establish relationships to increase data sharing among housing agencies etc. Survey tenants in high risk areas Educate law enforcement Secure protocols for enforcement Work with/Discuss/form relationships with state, entitlement, non-entitlement areas on housing issues 	<ul style="list-style-type: none"> <i>Database of Lead Safe Housing</i> <i>Maps of sources, homes with hazards, homes in lead safe compliance</i> <i>Remediation incentives</i> <i>Increase lead safe works practices during renovation etc.</i> Increase knowledge of lead – based paint hazards among tenants in high risk areas 	<ul style="list-style-type: none"> <i>Increased desire to remediate and/or abate homes</i> <i>Enhanced enforcement of R.S. 40.1299.27</i> <i>Increased adherence to Lead Disclosure Rule and Pre Renovation Education rule among property owners, landlords, contractors and construction trade professions</i> <i>Increased practice of lead-based paint maintenance</i> <i>Increased desire of families in high risk areas to seek lead safe housing & lead safe environments</i> Policy changes for pre-1950 to prove lead safe status 	<p>Eliminate blood lead levels ≥ 10 among children ages 1 to 6 years old in Louisiana</p> <p>Eliminate Lead Hazards</p> <p>Eliminate Lead Poisoning</p>

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V. References and Appendices

i. Information Sources

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2. Center for Disease Control and Prevention, National Center for Health Statistics. (1999-2000). National Health & Nutrition Examination Survey (NHANES 1999-2000).
3. United States Census Bureau. (2000). Census 2000. [available online: www.census.gov]
4. Korfmacher, K.M. (2003). Long-term costs of lead poisoning: How much can New York save by stopping lead? Environmental Science Center, University of Rochester. Manuscript submitted for publication.
5. Georgetown University Health Policy Institute; Center for Children and Families Available on line: <http://ccf.georgetown.edu/index/louisiana-full-example>

ii. Helpful Definitions

BLL – Blood Lead Level

Case – based on state rule LAC 48:V.7001.7007, a case of lead poisoning occurs when children between the ages of six months to 72 months of age have:

1. a venous blood lead level $\geq 15\mu\text{g/dL}$
2. acute symptomatic illness consisting of lead colic with or without lead encephalopathy; or
3. chronic symptomatic illness consisting of the signs and symptoms of chronic plumbism, including, but not limited to anemia, nephropathy, neuropathy, loss of developmental skills, recurrent lead colic and/or lead encephalopathy

EBLL – Elevated Blood Lead Level

High Risk – population or geographic area most affected by older housing and other risk factors, especially # of EBLLs, based on population density and screening data

Lead Hazards – Any condition that causes exposure to lead from dust, soils or paint that is deteriorated, present in chewable surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects.

--Paint:

- a. Any LBP on a friction surface subject to abrasion.
- b. Any damaged or otherwise deteriorated LBP on an impact surface.
- c. Any chewable LBP surface evidencing teeth marks.
- d. Any other deteriorated LBP

--Soils: Above HUD threshold levels.

--Dust: Surface dust above HUD threshold levels.

Surveillance System – database program and support staff that monitors and receives information from reporting clinics on blood lead screening and environmental information